

## Claims

1. A simulation system (30) for computer-implemented simulation and verification of a control system under development, the simulation system (30) comprising a plurality of simulation processes with corresponding memory and interface modules (2a-2k, 3a, 3b, 4, 6), which modules (2a-2k, 3a, 3b, 4, 6) comprise distinct memory locations for inter-module communication.
2. A simulation system (30) according to claim 1, wherein simulation is performed by running a control system simulation model, the simulation model comprising a number of sub-models being performed on one of the plurality of modules (2a-2k, 3a, 3b, 4, 6), respectively.
3. A simulation system (30) according to claim 1, wherein at least some of the modules (2a-2k, 3a, 3b, 4, 6) are dynamically reconfigurable for communication via distinct memory locations.
4. A simulation system (30) according to claim 3, further comprising a cross-bar switch (10) for dynamic configuration of the distinct memory locations.
5. A simulation system (30) according to claim 4, wherein the cross-bar switch (10) comprises an interconnection scheme (11) for coordination of the distinct memory locations.
6. A simulation system (30) according to one of the claims 1 to 5, comprising a host-target communication interface (6) for connection of the simulation system (30) with the simulation host (5), an input interface (3a) and an output interface (3b).
7. A simulation system (30) according to claim 1, wherein the modules (2a-2k, 3a, 3b, 4, 6) comprise at least one output port server (91a, 91b) for communication interconnection with respective output port service of other modules.
8. A computer-implemented method for simulating and verifying a control system under development by means of a simulation system (30) comprising a plurality of simulation processes with corresponding memory and interface modules (2a-2k, 3a, 3b, 4,

6), wherein inter-module communication is performed by copying signal values from one module memory location to another distinct module memory location.

9. A method according to claim 8, wherein communication between modules (2a-2k, 3a, 3b, 4, 6) is achieved by means of a cross-bar switch (10) for dynamic reconfiguration  
5 of the distinct memory locations.

10. A method according to claim 9, wherein dynamic reconfiguration of the distinct memory locations is achieved according to an interconnection scheme (11).

11. A method according to claim 8, wherein inter-module communication is achieved via output port service (91a, 91b) of the various modules (2a-2k, 3a, 3b, 4, 6).

10 12. A computer program with program coding means which are suitable for carrying out a method according to any one of the claims 8 to 11, one the computer program is run on a computer.

13. A computer program product with a computer-readable medium and a computer program according to claim 12 stored on the computer-readable medium.